photoresist is removed from the surface of the wafer by subjecting the wafer to a photoresist removal step which uses a remote (or downstream) hydrogen or deuterium plasma and substantially no oxidizing component. The hydrogen or deuterium could be introduced with a diluent gas such as N_2 or Ar where the hydrogen or deuterium is 60% to 100% of the mixture. A similar process as that described above can also be applied to remove residue from the wafer surface.

In the Claims:

Please cancel claims 2, 3, 7-19, 20-24, amend claims 1, 4-6, and insert new claims 25 - 31 as follows:

1. A method of fabricating an electronic device formed on a semiconductor wafer containing oxygen sensitive material, said method comprising the steps of:

forming a layer of a first material over said oxygen sensitive material[substrate, said first material is oxygen sensitive];

forming a photoresist layer over said layer of said first material;

patterning said layer of said first material; and

removing said photoresist layer after patterning said layer of said first material using a downstream plasma process comprising hydrogen or deuterium and substantially no oxidizing component.[; and]

[subjecting said semiconductor wafer to a plasma which incorporates a gas which includes hydrogen or deuterium so as to remove residue from said first material.]

4. (Amended) The method of claim 1 [3], wherein said [higher temperature is around 245°C.] downstream plasma process comprises a gas mixture of which 60% to 100% consists of hydrogen or deuterium.

5. (Amended) The method of claim 4 [1], wherein said [gas additionally includes a forming gas] removing said photoresist layer is performed in a temperature range of 245°C to 350°C .

[redacted]

6. (Amended) The method of claim [5] 1, wherein said [forming gas is comprised of] downstream plasma process further comprises a gas consisting of: argon, nitrogen, and any other inert gas.

-- 25. A method of fabricating an electronic device formed on a semiconductor wafer, said method comprising the steps of:

forming a layer of a first material over said wafer [substrate], said first material is oxygen sensitive;

forming a photoresist layer over said layer of said first material;

patterning said layer of said first material;

removing said photoresist layer after patterning said layer of said first material using a downstream plasma process comprising hydrogen or deuterium and substantially no oxidizing component; and

removing a residue on said semiconductor wafer after removing said photoresist layer using a downstream plasma process comprising hydrogen or deuterium and substantially no oxidizing component.

--26. The method of claim 25, wherein said downstream plasma process comprises a gas mixture of which 60% to 100% consists of hydrogen or deuterium.

--27. The method of claim 26, wherein said removing said photoresist layer is performed in a temperature range of 245°C to 350°C .

--28. The method of claim 25, wherein said downstream plasma process further comprises a gas consisting of nitrogen, argon, and any other inert gas.

-- 29. A method of fabricating an electronic device formed on a semiconductor wafer, said method comprising the steps of:

forming a layer of a first material over said [substrate] wafer, said first material is oxygen sensitive;

forming a photoresist layer over said layer of said first material;

patterning said layer of said first material;

removing said photoresist layer after patterning said layer of said first material; and

removing a residue, formed on the semiconductor wafer after removing said photoresist layer, using a downstream plasma process comprising hydrogen or deuterium and substantially no oxidizing component.

--30. The method of claim 29, wherein said downstream plasma process comprises a gas mixture of which 60% to 100% consists of hydrogen or deuterium.

--31. The method of claim 29, wherein said downstream plasma process further comprises a gas consisting of nitrogen, argon, and any other inert gas.--